NO 2

I.

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W. L. H. Dean

A Dissertation

on the

Secale Cornutum

By

William Armstrong Irvine

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Pennsylvania

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Among the great variety of new medicine's, which have of late years been introduced into our Materia Medica, there are few articles that demand our attention more than the Ergot; whether we regard the evils or the benefits resulting from its use. at one time the scourge of Mankind, now destined to alleviate the sufferings of that sex which presents the strongest claims to our sympathy and relief. Although the good effects which arose from administering this medicine in lingering labours had been observed many years since, yet the practice was confined to a few females, never having been noticed by the Medical men of those countries which have suffered so much from its use. we cannot, then, but be proud that it was reserved for an American Physician to introduce into regular practice

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The Ergot is an elongated excrescence which occupies the place of the seed within the glume or husk of the Rye. It has received several different appellations, as Calcar, Clavus Secalinus, Secale luxurians, Mutterkorn by the Germans, Spurred or horned Rye by the English, and is known to Medical men under the name of Secale Cornutum. It is about an inch in length, of a curved form, resembling the Spur of a Cock, externally of a dark brown colour, within whitish, brittle fracture, taste slightly bitter, some=
=thing similar to the flavor of a hickory nut.
As to its formation a variety of explanations have been offered, none of which are conclusive; that the disease is not confined to the Rye is well known, as grain of other species are affected by it, tho' not to that extent, as the Rye. There is also one species of grass, denominated

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denominated Poa Pratensis, or meadow spear grass, which abounds, at times, in an excrescence only differing from the Ergot in its size; which, as I shall hereafter shew, appears capable of producing among the cattle a disease similar in its effects to that brought on by the use of the spurred rye.

Mr De Candolle places the Ergot in the genus sclerotium, and terms it sclerotium clavus. The propriety of this arrangement has however been objected to by Birey, who states that it is not a mushroom, but a morbid mortification of the rye itself. among others Schmider was of opinion that it was produced by a viscous honey like substance which penetrated with the dew, producing a fermentation which finally terminated in the Ergot. Mr Tessier, who was appointed by the Royal Society of medicine in Paris, to visit the province of Sologne in France, where he had ample opportunity of observing the growth of this plant, considers marshy soil, abundant rains, followed by a hot sun, as the

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as the remote cause of the diseased grain. Tillet, who also paid particular attention to the formation of the diseased grains, thought that they were produced by the prick of an insect. – during an examination of a parcel of Ergot, he discovered that they contained an insect; scarcely perceptible, which he thought had been hatched and nourished in that situation – the grains in which he had observed these insects he covered over with a glass tumbler; they remained in the same place, enlarged, and finally consumed most of the Ergot: four of them changed into Butterflies the legs, wings were thickly covered with spots of white, and of a dark brown colour (musc foncée) † He thought he had perceived on the surface of a watering pot in the garden Butterflies of a similar description. In consequence of this he supposed that they were of the same species; that they had laid their eggs on the grain, and from this source had proceeded the Butterflies which he had obtained. that by some changes in their organization these grains had become Ergot, and served as

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as food for these insects; that they had been metamorphosed into Butterflies, and that in their turn they would have become the cause of Ergot in working for the preservation of their posterity. Tillet acknowledges that he did not observe this to have been the case in all the grains he examined, but attributes it to the death of the insect after the Ergot was formed. This statement is corroborated by Read, Military Surgeon to the Hospital at Metz who wrote a treatise on this subject in 1771. he thought that it was produced by the prick of the Butterfly whilst the grain was in a soft state, exciting a fermentation by the matter which it deposits, terminating in the Ergot. Not having had an opportunity of observing the progress of the rye to the Ergoted state, I am therefore not capable of deciding whether this opinion of Tillet is correct; although there is high degree of probability in the opinion of Tillet, that the Ergot is produced by an insect, yet I am rather inclined to believe with Tessier that it may be attributed to marshy soil and abundant

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abundant rains followed by a hot sun: that it is not confined to marshy soil I am well aware, but I consider a continued moisture followed by a hot sun as the most probable cause, and indeed from an account which I have lately seen, it would appear that the rye was affected by the rays of the sun in a peculiar manner which observation, if correct, would go far in confirming the above supposition.+

Vauquelin, Virey, and other Chemists have experimented in order to obtain the chemical constituents of the Ergot. It would seem from their experiments that it consisted 1st of a pale colouring matter, soluble in alcohol and tasting like fish oil — 2nd an oily matter — 3d a violet colouring matter, insoluble in alcohol, and easily applicable to silk or wool — 4th an acid, probably phosphoric 5th a vegeto-mineral matter prone to putrefaction, yielding much thick oil and ammonia by distillation.

+ It is stated by a Mr Thomson of Forbes that he had observed a ray of sun, after a shower of rain of a certain duration falling on an ear of rye was sufficient to cause the membrane of the anther, containing the pollen to burst like a

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It having been ascertained that to the use of the Ergot was to be referred the cause of the spasmodic and gangrenous diseases which have ravaged several parts of Europe, more particularly the province of Sologne in France. I have thought proper to insert a succinct account of the disease; the situation and year in which it appeared, such as I have been able to collect from the French authors treating on this subject, which have come within my reach.

Of the disease produced by the Ergot there are two species; the spasmodic and gangrenous. The first of these has received the name of Convulsio Cerealis by Linnaus and convulsion of Sologne in France. The earliest account we have of this disease is in a paper published by the faculty of Marbourg, in Hesse, attributing it to the use of the Ergot. a large number of those who were attacked by this disease remained in a comatose state, and those who escaped death continued in an unhealthy

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An accurate description has been given by J. A. Jerink of the spasmodic disease as it prevailed in Wurtemberg, in Bohemia. It commenced, say's he, by a disagreable sensation in the feet, a sort of tickling, or pricking; "The stomach was soon affected by a violent cardialgia, from thence the disorder proceeded succefsively, to the hands and head; the fingers were so strongly clenched, that it required the efforts of ~~the efforts of~~ a strong man to overcome their contraction; the joints appeared as if they were luxated. The sick cried aloud in their agony, and complained of a burning sensation in their hands and feet; copious perspiration flowed from all parts of their body. After being thus affected the head became giddy.

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In one case a patient had sores on his neck which secreted a yellow pus in the midst of dreadfull burning pains. another had spots on his feet resembling fleabites, and several others had their faces covered by these spots in a horible manner. The purse remained without an exception as in a state of health.' This disease remained two, four, and even eight weeks, with intervals of repose, out of 500 who were thus affected, within the knowledge of Serink, 300 children perished considering, as such all who were under 15 yrs. In another description given by Dr H. Burghard it appears that they were affected in nearly a similar manner
No mode of treatment appeared capable of alleviating their dreadfull sufferings; a remission rarely taking place before the third week. sometimes continuing in those persons, who suffered the disease to take its course, until the second month. If after an attack of these spasms, fever supervened, attended by, copious perspiration, the chance for a recovery,

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was much greater. The limbs of those persons who died, were a short time before their death paralitic. In 1648, 49-75 (Voigtland) was afflicted by this disease. In the year 1698 in several parts of Germany, persons who had been in the habit of using the rye containing the Ergot were attacked with vertigo, pain in the head, continual nausea and swelling of the face. Friburg in 1702 was overrun by a convulsive disorder. In 1716-17 it made its appearance in several parts of Alsace, Saxe, and Sweden, according to Schmidt the crops contained one fourth Ergot, and to this cause was attributed the prevailing disorder; he also states that the marshy districts suffered the most.

The second species, or the gangrenous, which was received the name "Necrosis ustilaginea", Gangrene of Sologne made its appearance in France in 1639. Vrault, who was in Sologne, was informed by the Physicians of that district, that this disease was

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reduced by the Ergot. In 1776 Vadart was employed by the French Academy to investigate this subject. From his report it appears that he was satisfied that this disease originated from the use of bread containing the spurred rye. Orleans and Blaisilois were ravaged by this disorder in the year 1709. The gangrene commences at the toes, rising gradually to the top of the thigh, the gangrenous parts seperated spontaneously, in some cases it was stopped by scarification and local applications. When amputation was had recourse to, the gangrene was not stopped, and the patients finally died, the disease having invaded the body— females, generally, were not affected. It appears that in 1709. the rye in Sologne contained one fourth Ergot, and that those who fed on this grain experienced a kind of intoxication, and that this feeling was often followed by Gangrene and finally that in those districts where there was little Ergot, they were not so affected.

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The gangrene, with which these persons were affected spread rapidly, and to an alarming extent; in one case it caused the destruction of the toes of one foot; after that of the other, then the remaining portions of the feet, and successively the flesh from the legs and thighs. when this account was given the bones at the hip had commenced granulating.*

During the excessive cold of 1709 it made its appearance in the canton of Luzerne; in those of Zurich and Berne in 1715–16. A description of this disease has been given by Langius.+ He states that this disorder commenced with great lassitude, unattended by the slightest degree of fever; the extremities soon becoming cold; then pale and wrinkled, similar to the appearance they have after a long immersion in hot water; the wrinkles were so large as to prevent the traces of the veins from being perceived. Numb, deprived of all sensibility, moving with difficulty, experiencing acute deep seated pain, which was increased by the heat of the

* Histoire de l'academie de science for 1770

+ Acta Eruditor for 1718.

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chamber, or that of the bed; and only intermitted when the patient was exposed to a cold scarcely supportable; the pain extended by degrees from the ~~feet~~ from the feet to the thighs, and from the hands to the arms, until those parts became dry and sphacelated. In several instances there was found in the gloves of those who were thus affected one or two of the digital phalanges. The other parts of the body remained in a healthy condition excepting, in those persons, who, at the commencement of the disorder, were affected by a slight degree of fever, succeeded by copious sweats which extended from the head to the pit of the stomach; they were disturbed and troubled with frightfull dreams; more particularly when they had made use of hot provisions. If they had only partaken of a small quantity of Ergot in their food, they were not affected much; having only a heavy or numb sensation in the head, to which succeeded a kind of intoxication. Those persons who had partaken of bread hot from

the men, were more especially subject to this last symptom. In 1774 this disease recurred in Sologne and was very fatal; the limbs of the patients became gangrenous and seperated from their articulations - some patients in the Hôtel Dieu lost both the superior and inferior extremities and as the loss was not attended by hemorrhagy survived for some time.

Salerne a physician

* of Orleans gives an account of the gangrenous disorder which prevailed in 1774 among other cases he states that of a boy of ten years who lost both his thighs, and of another who lost one thigh and the leg of the opposite side; in 28 days they were both dead. It appears that amputation rather accelerated than check'd this disorder, as out of 25 who were operated on only 4 or 5 escaped. Salerne observed that these unfortunate people were stupid, their skin yellow, the face and the white of the eyes particularly; their stomachs were hard large, and tense, that they became emaciated

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Their evacuations were regular, the alvine excretions bound, but that two or three weeks before death diarrhœa supervened, attended with colic; that they had a good appetite and slept well. The pulse very small and scarcely perceptible, although the vessels appeared large and swelled — on opening a vein the blood appeared very thick and dribbled† out. I shall notice but one other writer on this disorder and that is Read Military Surgeon to the Hospital at Metz, and on whose observations great reliance seems to have been placed. He states that it commences by acute pains in the extremities, with little swellings unattended by inflamation, but not without fever In the course of 15 days the pain ceased. The hands and feet were numb, accompanied by a great degree of cold, which could not be overcome by the application of any warmth; this state continued for about 30 days when vesicles arose, soon followed by gangrene of the toes that made rapid progress from the feet

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to the thighs, which became sphacelated, after this the limbs dropt from their articulations. This account differs from that of Langius, as regards the temparature of the extremities. It is curious that this disorder should present such opposite symptoms. Numerous experiments have been undertaken in order to shew the agency of the Ergot in producing the disease we have just described; amongst the experimenters were Salerne, Tessier, and Read, on the accuracy of whose experiments the greatest reliance may be placed. They have observed that Pigs, Turkies, Ducks and Chickens, fed on the spurred rye, for a certain length of time, uniformly became gangrenous, and presented many of the symptoms which had been observed in the human system, from the same cause.†

There have however been some persons who deny that the Ergot is capable of producing disease. amongst whom are Schlegel Parmentier, and more particularly Mr Model, a

† The detail of these experiments would occupy to much space were they inserted, suffice it to say - that the greatest reliance may be placed on their accuracy. They have been repeated in this country, with precisely the same result.

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a Russian Apothecary, who instituted a series of experiments which he considered as having completely negatived this supposition. As his opinion has often been quoted by those persons who do not believe that the Ergot possesses deleterious qualities I think it will be well to give a translation of part of his paper, which will shew, as I think, clearly, that these experiments were not prosecuted for that length of time which is necessary to put the system under the complete influence of this article. His experiments were only continued for eight days, a time certainly too short for that purpose. He first experimented on a pigeon, a chicken and a dog, mixing the Ergot with their food. He then states that these preliminaries emboldened him to become the fourth subject of experiment. "I determined therefore in order to become acquainted with the labor and the effect that the Ergot would

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have on me, to take half a drachm every morning fasting during eight days. On chewing it for the first time I thought that it was acrid, but this soon disappeared, leaving only a slightly bitter and nutty taste. I felt no irritation in the throat nor any other of the symptoms which Ergot has been said to produce: my sleep was tranquil during the whole of this regimen, and I had not the least headache. Altho' my pigeon, chicken, dog, and myself enjoyed the best health, it was necessary that I should be fully assured as to the effect of the Ergot: under what form said I to myself do they make use of this article? it is only after it has been converted into flour and made into bread. It is possible (I continued) that during fermentation, all these mischevious qualities are developed; since Ergot in a state of grain cannot produce any bad effect as my

my experience during eight days had convinced me. I therefore reduced the Ergot into a powder, and obtained a flour of a brown colour; I mixed an ounce of it with leaven and meal composed of the sound rye. I made a cake of it which I suffered to become cool, in order to obviate the inconveniences of hot bread. It was of a bad colour, but good smell, and slightly bitter taste. This bread was distributed to my pensioners with great economy according to their species not one of them were in the least affected by it. The next day I prepared a cake of the same description, but in which I doubled the proportion of Ergot. It was equally distributed and eat with the same pleasure, without the least accident having occured from it. I had yet four ounces remaining at my disposal, I resolved to put it into double its weight of cake composed of rye, in order to see whether the animals I accustomed

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to the use of the Ergot, should in this new combination shew any repugnance or any change which could be attributed to its use. Their situation appeared constantly the same. I also ate of this bread without perceiving anything particular".

"I returned my animals after this to their accustomed nourishment and visited them constantly without perceiving anything out of the way. They appeared fat and very gay; my satisfaction at seeing them enjoy the best health, was soon disturbed with the idea of their destruction. I confess that it was not without an internal struggle that I exposed myself to the remorse of being cruel towards them; but the adversaries of the Ergot demanded a sacrifice — It was necessary to decide — I therefore killed my pigeon and chicken — I did not perceive on opening the bodies of these victims, any gangrenous spot, or vestige of erosion either in the stomach or intestines. I determined not without pain to eat them ergotted as they were: my dog gnawed the bones

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and I declare neither one or the other were in the least incomoded by, so doing. I also add that my limbs hold fast to my body, and finally that they are sound and very strong. I am far from supposing that the Ergot is equal to good grain; but I have shewn that no bad effects can arise from its use: as has been advanced with so much confidence. "However abundant the Ergot may be in our crops, it never is in as large a proportion as that used in my experiments. Altho' the number of these grains, are undetermined we rarely find more than 4 or 5 in each head of Rye." I do not think it necessary to add anything further on this subject. Models experiments+ carry with them the evidence of their inaccuracy, experience has taught us that a greater length of time ~~length of time~~ is necessary, to produce those injurious effects which have been, with great probability, laid to the charge of the Ergot.

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We have before stated that grain of other description than that of the rye, appears capable of producing consequences similar to that of the Ergot; as regards wheat we have the evidence of Dr Charlton Wollaston, of a family who had subsisted on diseased wheat which they had obtained, from a neighbouring farm, having been afflicted with gangrene of the limbs, which resembled that with which Sologne has been so often ravaged.†

Of the disorders with which the cattle of this country have been affected there is one supposed to have been produced by the Ergot of spear grass. This complaint has prevailed in several parts of the United States, more particularly the north western parts of the State of New york. an interesting paper has been published by Dr Arnell, Secretary to the agricultural society of Orange county in that State, descriptive of the disease which prevailed in the year 1820‡ The great resemblance between this disorder and that Gangrene of Sologne is

† This account is to be found, in the Philosophical Transactions, and the annual register for 1762

‡ Published in the Plough boy, of New york

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is very remarkable, and as this resemblance is of importance, as additional evidence of the deleterious effects of the spurred rye, when used to a certain extent; I will take the liberty of making use of a few extracts from this paper. Dr Orwell, states that the first symptoms which were observed was a lameness in the foot (Mr Hick noticed that his cattle kept a continual stamping with their hind feet in the morning, two or three days before he discovered any lameness) slavering at the mouth, in some instances vomiting, insensibility, the feet: swelling above the hoof in the hind legs; frequently the fore feet were not atall affected. In this stage, if the leg was punctured, there issued out a bloody serum. mortification commences almost as soon as the disease is discovered and runs up the legs in about two weeks, when it forms a seperation from the living flesh, in about two weeks more the legs fell off at the seperated parts - sometimes at the pastern joint, but more frequently above it; the skin was of the mortified

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mortified part, soon becomes hard and dry, and has the appearance of what is denominated dry gangrene. Their appetite for food continued good; the countenance depressed and the eyes shrunken in the head, their natural secretions continued regular; they lie down and as if insensible of their situation make no attempt to rise."
We see in this account many symptoms that coincide with the descriptions that have been given of the gangrene of Sologne - The insensibility of the feet; the gangrenous condition of the limbs - the general appearance - agree so well with the effects produced by the Ergot; that we cannot for a moment doubt what cause to refer it to, more particularly when we have sufficient evidence that these cattle were fed on grass which abounded in Ergot. Of that species of grass which produces the Ergot there are three: the one we are about to consider is the Poa Palustris or meadow spear grass; and on hay made of this species of grass were fed those cattle whose disorder has been described above.

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Dr Ames mentions that this grass contained a vast quantity of Ergot that year - he then goes on to say, "The facts on which the cause of this disease rest, were strong and convincing to most of those in the district of the country where the disorder prevailed. Mr Elihu Lawson lost 24 cattle all of which had been fodered on this kind of hay; Mr E Reeve lost 14 and what is remarkable he sold a load of this hay to widow Cox before the least suspicion was entertained as to its poisonous qualities and three of her cows took the disease ten days after she began to use this hay; Mr G. Little procured some of the same hay from Mr Reeve, which produced the same effect on his cattle. Mr Moses Philips had a meadow of this grass two miles from this village which he cut before harvest; he sent 14 of his cattle there to be fodered with this hay and which was full of Ergot; the consequence was that 5 took the disorder and altho' they were taken home and yarded with the other cattle no others took. Some cases occured in Florida (N.Y.) particularly amongst the

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the cattle of Phineas Tomphins, he had cut two stacks of the [illegible] spear grass on the 5th of July last, and considering it as having been secured in good order he resolved to keep it until during the latter part of the winter; he began to use the hay about the 4th of March and four of his best cows took the measles soon after. [illegible] took place with regard to Chauncey Howells cows. I have seen that Mr Z Halley of Blooming grove, used the same kind of hay and with the same unfavorable results; having 10 or 12 cattle rendered useless by the [illegible] of their legs. [illegible] on the cows [illegible] inclined into [illegible] to the [illegible]".

The above extracts are sufficient in my mind to show that the disease was occasioned by the cattle eating a hay, containing ergot and as analogous to the evil effects of the ergot on the human system.

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Having considered the evil consequences which have resulted from a continued use of the spurred rye; we will return to a more pleasant task, that of recording the beneficial effects attending on its use as a medicine. The earliest account I have met with of its employment in accelerating lingering labours, is in the Dictionaire d'Histoire Naturelle. by Bomare, In which work he states that, he had read in the Journal de Physique for August 1774, that Mde Dupille de Chaumont in Berlin, whose principal occupation seems to have been the succor of the sick who [illegible] she was in the habit of administering to females (according to the directions of her Mother) in lingering labour, a thimblefull of Ergot ~~dissolved~~ diffused either in wine, broth, or water. when the child presented well, labour was accomplished in a half an hour; and that these women were not injured by the use of such a remedy. But it would appear that this practice either fell into disuse, or never was noticed by regular practitioners

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or that it never was noticed by regular practitioners. at the same time it is curious that it should not have attracted the notice of those Physicians, who were in the constant habit of seeing persons diseased from the use of the Ergot. For when we consider the wide prevalence of this disorder, and that females must in all stages of pregnancy have partaken of a sufficient quantity of Ergot to have produced + abortion; yet we do not find any such effects having taken place. The only account I have met with of females having been affected in a peculiar manner is in a description given by J H Burghard, of Convulsio Cerealis in Silesia. In which it is stated to have continued much longer in females, and was extremely violent about the menstrual effort; after this had taken place they did not complain much, unless it was of great prostration, until the return of the menses ushered in new sufferings. On the other hand it is stated by Noel that females

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were not generally affected by the dry gangrene which ravaged Orleans and Blaisilois in 1709. How to explain this exception I am unable, yet such is the fact. To Doctor Stearns of New York are we to owe the merit of having introduced into regular practice the Ergot as remedy in lingering labours: and undoubtedly it has power to produce in the hands of skillfull men, all the good effects which could have been expected by its warmest friends.

Much has already been said by Dr Stearns and other practitioners, as to the proper cases, and modes of exhibition in labour, that I think a repetition in this place, unnecessary. From the known fact, that Ergot has a specific action to the uterus, we should be led to the conclusion, that we would find in this article a usefull remedy for several of those disorders, to which this organ is liable, and on which depends in so great a degree the health of women: accordingly this

medicine has been tried in amenorrhœa, but not with the success that might have been expected. From the action of Ergot which is prompt, not continuing for more than a few minutes, it would seem to be only applicable to those cases, kept up by the formation of the membrana decidua - and indeed, doctor Chapman mentions two cases+ in which this article was found wanting in expelling the membrane. That a total suppression of the menses may originate from this cause, is, I think, very certain, and to such cases would I consider the Ergot as peculiarly suited. I would not only use it as a mechanical remedy, exerting the uterus by repeated contractions to detach and throw off the membrane; but also from the circulation increasing the flow of blood to those parts; and by that stimulus inducing the uterus to exert its proper secreting action. I am indebted to Sir Richard Povall of this place, for the detail of the following case which shews in a clear point of view, the superiority

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of this medicine in those cases, to which I have considered it as peculiarly applicable.

"J.B. a young girl of about nineteen years of age, by trade a milliner, had been labouring under a suppressed catamenia for more than several months, when she applied to me for relief after ascertaining the symptoms which marked her case, and the remedies that had been unsuccessfully employed by the physician who had previously attended her, I was persuaded that the cause of her disorder, might be referred to the membrana decidua; and that the only hope of affording her permanent relief, was in effecting the expulsion of that morbid production. I recollected having read many years ago, in the Eclectic Repertory, a very interesting paper by Dr Chapman on the power of the Polygala Senega in such cases as I apprehended this to be. I therefore determined to make a trial of this medicine. I directed it to be prepared and

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administered, as described by Sydenham, in the several cases which came under his care: But after persevering in its use for several weeks, occasionally laying it aside, I could discover no decided improvement in my patient. As almost all remedies belonging to the class of emmenagogues, had been fully administered to this girl before she came under my care, and being discouraged from a further use of the Senega, I next determined to make a trial of the Ergot. The decisive efficacy of this medicine in promoting the speedy expulsion of the foetus in lingering labour, gave it a strong recommendation to my notice, in those cases when we had reason to believe the membrane exists. My mode of preparing and administering the Ergot was as follows — I directed ½ of the powder to be put in half a pint of water and boiled away ~~one fourth~~ one third. The patient was to take the third of the decoction thus prepared, every hour until strong pains commenced in the

in the uterus: then suspending a further use of the medicine for eight or ten hours; when the same mode of proceeding was to be renewed. This practice was persevered in for two or three days in succession, when I received the gratifying intelligence from my patient that she had discharged a substance of a membranous nature, of the size, as she said, of a dollar. I regret that this substance was not preserved and submitted to my inspection. I have no doubt however of its being that genuine adventitious membrane denominated Membrana decidua. The menstruation had immediately followed its expulsion, and continued to flow for three days. It is now six months since this patient was under my care; she continues to menstruate regularly at the usual intervals. The whole quantity of Ergot did not exceed ℥ij."—

I cannot but believe that the Ergot would on a more extended trial be found usefull in those cases of amenorrhoea not kept up by the membrana decidua.

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Yet I am of opinion that many cases depend as much upon a languid circulation, in the uterine region, and by an atonic state of the uterus, induced by the absence of the stimulus, blood, which is determined to these parts in a state of health, at periodical intervals; as upon a perverted action of the uterus itself. For we see ~~in~~ many cases of amenorrhœa are attended by an enfeebled state of the system, and consequently, a languid circulation. That when Tonics are given to restore it to a state of ~~health~~ strength, that on this event taking place, the circulation is increased, and that frequently, the menstrual discharge takes place. I would endeavour to explain it in the following manner — That the blood not being determined in a sufficient quantity to those parts, owing to an enfeebled state of the circulation, the uterus falls into an atonic state — that on tone being imparted to the system, the circulation and the volume of the blood is increased, and that

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that from the present stimulus of the blood, tone is imparted to the uterus enabling it to perform its proper function when the [illegible] to the [illegible] tone [illegible]. It may be [illegible] to [illegible] that we see many cases of amenorrhœa in which there is an increased circulation, and that in this case there certainly must be sufficient stimulus of blood present to bring about the proper secretion. I would answer that, in this case there is an over stimulus applied, disabling the uterus from exerting its proper secretory power. The stimulus being so great, that it produces an atonic state of the uterus. The proof of this may be found in the circumstance of the best effects having been produced by bleeding in such cases. as an illustration I might give the approfsed pulse, in which case" is owing, to the too great volume of the blood, impairing thereby the vital functions. on blood being abstracted. their proper action is restored, again altho' there may be an increased circulation, the blood may, be determined to other parts, by causes with which we are unacquainted,

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We know that in some instances, the blood which should have been thrown off by the Uterus, is often discharged through the medium of the Stomach, or by Epistaxis. Besides, those cases which I have alluded to are not those of increased, but of diminished circulation — Now in such cases the indications would be. 1st to strengthen the system, and by that means increase the circulation — 2nd to produce a proper determination of blood to the Uterus — For fullfilling the first indication I would make use of remedies which would tend to strengthen and invigorate the system, This point gained, I would, in order to accomplish the second indication I would resort to the Ergot which by the irritation and stimulus, would occasion a determination of blood to these parts.

There are persons who object to the Ergot that its effects are too transient to do good, That its action does not continue for any great length of time I am well aware,

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But I think if applied at a proper time and in a proper manner, it would have the effect of awakening the Uterus, if I may be permitted the expression, to its proper action.

Of the employment of the Ergot in Uterine hemorhagy, I know nothing; but from its action I would consider it as eminently calculated for that purpose. It has also been used to restrain floodings with much success. On the whole I am of opinion that on a more extended trial of the Ergot it will acquire, and justly too, an increased Reputation.

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